The UCLA Urosensor BRP Year 2 Summary

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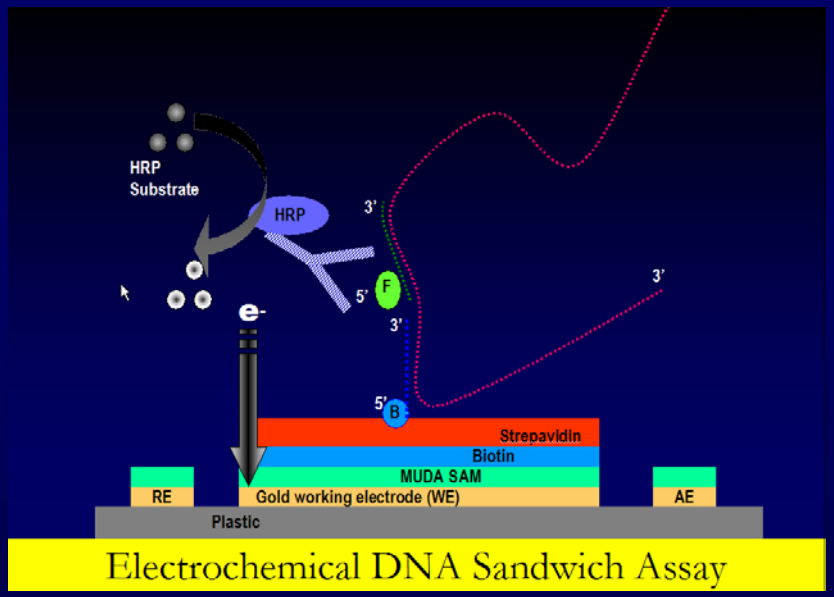
Goal: A point-of-care device for rapid detection of bacteria which cause urinary tract infections

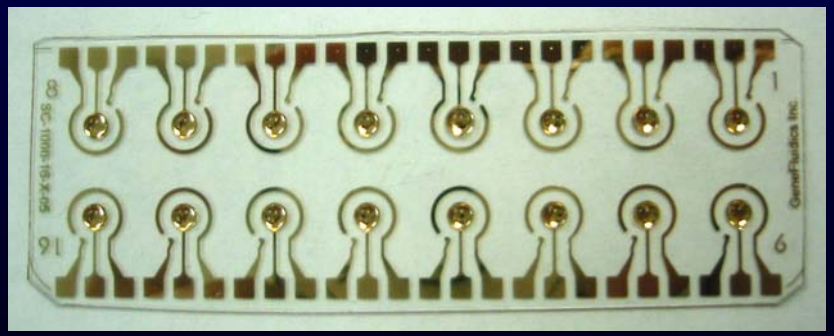
- *Electrochemical-based*
- *No PCR*
- *RNA target*



Electrochemical DNA Sandwich Assay

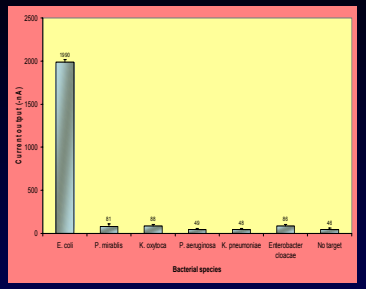
Milestone 1: Sensor Design

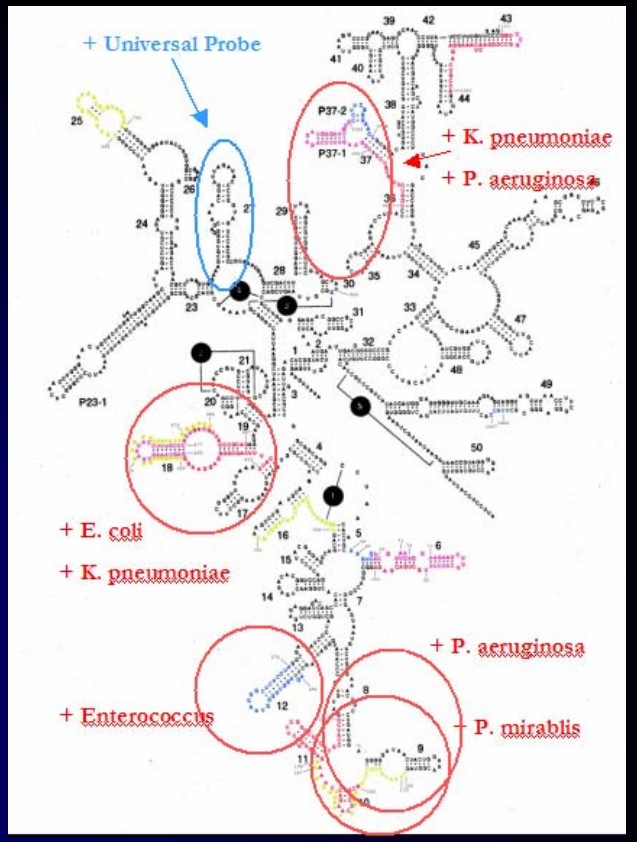
- 16 sensor array
- Functionalized surface: Self-assembled Monolayer (SAM)
- Improved quality control
- Decreased variance



Milestone 2: Probe Design

- Species-specific Probes
- Universal bacterial Probe
- Computational-based design
- Direct detection of E.coli in urine





Milestone 3: Uropathogen Specimen Bank

- 400 collected & 16S rRNA gene sequenced
- Minimal intraspecies-differences
- Begun clinical correlation study

Milestone 4: Microfluidics/sample preparation

- Development of dielectrophoretic (DEP) biofilter
- UCLA Crossflow filter design